WHAT IS CLAIMED:

1. A method for preserving image squareness and image on image registration in a system having a plurality of imaging stations, each imaging station having an ROS, the method comprising:

adjusting a target skew of a reference ROS within one of the plurality of imaging stations by the angular difference between an actual reference ROS position and a target reference ROS position; and

adjusting the target skew of the reference ROS by a skew of the reference ROS relative to a desired skew for image squareness.

2. The method of **claim 1**, wherein the adjustments made to the reference ROS are made to the ROS of each imaging station.

3. The method of **claim 1**, further comprising setting the angular difference between the target ROS position and the actual ROS position to zero after an image on paper registration.

4. The method of **claim 3**, further comprising determining the target skew position by

measuring the skew of the reference ROS relative to the MOB sensors during each iteration of an Expanded Chevron Reference Image Adjust Phase, and

subtracting the angular difference between the target ROS position and the actual ROS position.

5. The method of **claim 1**, wherein the method is performed during the Standard Chevron Reference Image Adjust Phase.

6. The method of **claim 1**, further comprising storing the average measurement of reference skew relative to the reference skew offset value in a NVM location for the residual skew in the position of the reference ROS after each iteration of this setup phase.

7. The method of **claim 1**, further comprising:

determining the number of microsteps a stepper motor must take to de-skew the reference ROS after an image on paper registration is performed;

adjusting the skew of the reference ROS within each imaging station by the number of microsteps determined.

8. The method of **claim 1**, wherein a measurement of the skew of the actual reference ROS position relative to the target ROS position is made by the MOB sensor.

9. The method of **claim 1**, wherein a measurement of the skew of the reference ROS relative to the desired skew for image squareness is determined from a generated test pattern.

10. The method of **claim 1**, where the method is performed after both an image on image registration setup and an image on paper registration setup has been performed.

11. A method for preserving image squareness and image on image registration in a system having a plurality of imaging stations, each imaging station having an ROS, the method comprising:

generating a test pattern;

printing a test pattern;

determining the angular difference between a target skew and a desired skew for image squareness of a reference ROS of an imaging station based upon measurements made of the test pattern;

detecting the angular difference between the target skew and an actual skew of the reference ROS;

adding both the angular difference between the actual and target positions of the reference ROS and the angular difference between the target skew and the desired skew for image squareness of the reference ROS to the target skew of the reference ROS.

12. The method of **claim 11**, further comprising setting the angular difference between the target skew and an actual skew of the reference ROS to zero.

13. The method of **claim 11**, further comprising adding both the angular difference between the actual and target positions of the reference ROS and the angular difference between the target skew and the desired skew for image squareness of the reference ROS to an ROS of every other imaging station.

14. The method of **claim 11**, where the method is performed after an image on image registration setup has been performed.

15. An IOI registration system, comprising

an initial gross registration mode including a plurality of first registration marks imaged on an image bearing surface,

said registration marks being formed to provide a wider misregistration latitude for said registration marks sensor in said process direction,

imaging said first registration marks on said image bearing surface until an initial gross registration is achieved,

automatically switching said color registration system to a second registration mode in which said color registration system automatically images a plurality of second registration marks on said image bearing surface,

wherein the position of a reference ROS is adjusted by the actual skew position of the reference ROS relative to the MOB sensors minus the error between the actual skew position and the target skew position.

16. The method of **claim 15**, wherein the adjustments made to the reference ROS are made to the ROS of each imaging station.

17. The method of **claim 15**, where the method is performed after an image on paper registration.